

SEQUENCE LISTING

<110> Falco, S. Carl
 Famodu, Omolayo O.
 Hitz, William D.
 Kinney, Anthony J.
 Rafalski, Antoni
 McGonigle, Brian
 Lohman, Karin

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Val Thr Gly Ala Leu Asn Thr Val Leu Ser Leu Glu His Gln Lys Glu
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Val Ile Leu Arg Leu Leu Gly Glu Gly Pro Asp Ser Gly Asp Gly Ala
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Ile Thr Ser Trp Gly Lys Phe Trp Leu Ser Val Leu Gly Val Phe Glu
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Gly Val Lys Asp Ile Glu Asp Val Thr Gln Glu Ile Val Thr Lys Thr
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Phe Val Gly Pro Ile Ser Pro Thr Val Leu Ser Leu Arg Lys Glu Leu
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Tyr Thr Val Pro Tyr His Asp Ile Asp Trp Asp Gln Ala Arg Asn Leu
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Cys Ala Lys Glu Asp Leu Tyr Tyr Pro His Pro Leu Val Gln Asp Ile
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Pro Gly Lys Arg Leu Arg Glu Lys Ala Ile Ile Ser Ala Leu Glu His
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 Ser Trp Gly Val Cys Phe Thr Tyr Gly Ala Trp Phe Gly Val Lys Gly
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 Leu Ile Ala Ala Gly Arg Ser Phe Ser Asn Cys Ser Ser Ile Arg Lys
 625 630 635 640
 Ala Cys Glu Phe Leu Leu Ser Lys Gln Leu Pro Ser Gly Gly Trp Gly
 645 650 655

Glu Ser Tyr Leu Ser Cys Gln Asn Lys Val Tyr Ser Asn Leu Glu Gly
 660 665 670
 Asn Arg Ser His Val Val Asn Thr Gly Trp Ala Met Leu Ala Leu Ile
 675 680 685
 Asp Ala Gly Gln Ala Lys Arg Asp Ser Gln Pro Leu His Arg Ala Ala
 690 695 700
 Ala Tyr Leu Ile Asn Ser Gln Leu Glu Asp Gly Asp Phe Pro Gln Gln
 705 710 715 720
 Glu Ile Met Gly Val Phe Asn Lys Asn Cys Met Ile Thr Tyr Ala Ala
 725 730 735
 Tyr Arg Asn Ile Phe Pro Ile Trp Ala Leu Gly Glu Tyr Gln Ser Gln
 740 745 750
 Val Leu Gln Ser Arg
 755

<210> 7
 <211> 1300
 <212> DNA
 <213> Triticum aestivum

<400> 7
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 tgctcccact cttaagctgg cacatgattt tattaagaac tctcaggttg ttgatgactg 120
 ccctggagat ctgagttact ggtaccgtca catatctaaa ggtgcatggc ccttttctac 180
 agctgatcat ggttggccta tatcagattg cactgcagaa ggactaaagg cctcattatt 240
 gctatcaaag atttctccag aaattgtggg cgaatcgggt gaagttaaca gactatatga 300
 tgctgtcaat tgtttgatgt cttggatgaa tgaaaatggg ggcttcgcaa catatgaact 360
 ccaaagggtt tatgcctggc ttgagcttat caaccctgcc gagacattcg gagatattgt 420
 gattgattac ccgtatgtgg aatgtacctc agccgcaatt caggccctga catcatttaa 480
 aaagctctat cctgggcacc gcaggaaaga tgtagataac tgtatcaaca aagctgctag 540
 ttacattgag agcatccaaa gaaaagatgg ttcatgggtat ggctcttggg ctgtgtgctt 600
 cacctatggc acatggttcg gagtgaaggg gctactagct gcaggtagaa ccttcaagag 660
 cagtcctgca atcagaaagg catgtgactt tctgatgtca aaagagcttc ctttcggtgg 720
 ctggggagaa agctatctgt catctcaaga tcagggtttac accaatcttg aagggaagca 780
 tactcatgct gtcaacactg gctgggccat gctgactcta attgacgcag gacaggctga 840
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 tggggaattt cctcagcaag agatcatggg agtcttcaac aagaactgca tgatcagcta 960
 ctcccagtat cggaacatct tccctatctg ggcgcttggc gagtaccgct gccgggtgct 1020
 gggcgcggcc aagaagtagt accgtcttcc ttctcttggg ccgggttacg tgctggaaca 1080
 gtgtgtttct gtaataatgt tgctaggtag aggtggagat ctggtagccg tatagatttt 1140
 tttttaccat ttgatgagta gaggaataaa ctggagaggg gtatatatgt cgctttagg 1200
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 tgagaagatt gaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1300

<210> 8
 <211> 345
 <212> PRT
 <213> Triticum aestivum

<400> 8
 His Glu Asp Thr Ala Phe Ala Val Gln Ala Ile Ala Ala Thr Asp Leu
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Ile Glu Glu Phe Ala Pro Thr Leu Lys Leu Ala His Asp Phe Ile Lys
 20 25 30
 Asn Ser Gln Val Val Asp Asp Cys Pro Gly Asp Leu Ser Tyr Trp Tyr
 35 40 45
 Arg His Ile Ser Lys Gly Ala Trp Pro Phe Ser Thr Ala Asp His Gly
 50 55 60
 Trp Pro Ile Ser Asp Cys Thr Ala Glu Gly Leu Lys Ala Ser Leu Leu
 65 70 75 80
 Leu Ser Lys Ile Ser Pro Glu Ile Val Gly Glu Ser Val Glu Val Asn
 85 90 95
 Arg Leu Tyr Asp Ala Val Asn Cys Leu Met Ser Trp Met Asn Glu Asn
 100 105 110
 Gly Gly Phe Ala Thr Tyr Glu Leu Gln Arg Phe Tyr Ala Trp Leu Glu
 115 120 125
 Leu Ile Asn Pro Ala Glu Thr Phe Gly Asp Ile Val Ile Asp Tyr Pro
 130 135 140
 Tyr Val Glu Cys Thr Ser Ala Ala Ile Gln Ala Leu Thr Ser Phe Lys
 145 150 155 160
 Lys Leu Tyr Pro Gly His Arg Arg Lys Asp Val Asp Asn Cys Ile Asn
 165 170 175
 Lys Ala Ala Ser Tyr Ile Glu Ser Ile Gln Arg Lys Asp Gly Ser Trp
 180 185 190
 Tyr Gly Ser Trp Ala Val Cys Phe Thr Tyr Gly Thr Trp Phe Gly Val
 195 200 205
 Lys Gly Leu Leu Ala Ala Gly Arg Thr Phe Lys Ser Ser Pro Ala Ile
 210 215 220
 Arg Lys Ala Cys Asp Phe Leu Met Ser Lys Glu Leu Pro Phe Gly Gly
 225 230 235 240
 Trp Gly Glu Ser Tyr Leu Ser Ser Gln Asp Gln Val Tyr Thr Asn Leu
 245 250 255
 Glu Gly Lys His Thr His Ala Val Asn Thr Gly Trp Ala Met Leu Thr
 260 265 270
 Leu Ile Asp Ala Gly Gln Ala Glu Arg Asp Pro Thr Pro Leu His Arg
 275 280 285
 Ala Ala Lys Val Leu Ile Asn Leu Gln Ser Glu Asp Gly Glu Phe Pro
 290 295 300
 Gln Gln Glu Ile Met Gly Val Phe Asn Lys Asn Cys Met Ile Ser Tyr
 305 310 315 320
 Ser Gln Tyr Arg Asn Ile Phe Pro Ile Trp Ala Leu Gly Glu Tyr Arg
 325 330 335

Cys Arg Val Leu Gly Ala Ala Lys Lys
 340 345

<210> 9
 <211> 1457
 <212> DNA
 <213> Zea mays

<400> 9
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 gcccaatggt caattagaac aaggaactgt tacatcactt ctggaagaaa atgggtactgt 180
 taaagggtgt caatacaaaa ccaagtcagg tgaagaacta aaagcattatg cgcccttgac 240
 gattgtatgt gatggctgct tttcaaactc acggcgtgcc ctttgctctc caaaagttga 300
 tgttccatca tgttttgttg ggctgggtatt ggagaattgc caacttccac atccaaacca 360
 tggccatggt atcttggtcca atccttcgcc aatactatct tacccaatta gcagcacaga 420
 ggtgcgctgt ttggttgatg tcccagggtca gaagggtgcct tccatagcta gcggtgaaat 480
 ggcaaattat ctcaaaaccg tcgttgccac ccagattcct ccagaaatct atgactcttt 540
 catagcggcc attgataagg gaagcataag aacaatgcc aacaggagca tgccagcggc 600
 tccacttcct acccctggcg cacttctgat gggggatgcc ttcaatatga gacacccttt 660
 aactgggtga ggaatgactg ttgcattatc cgacatcggt gtcctacgta atcttctcaa 720
 gcctctccgc aatctccacg acgcattctc cctgtgcaag tacctcgaat cgttctatac 780
 gctgcggaag ccggttgccct ccaccataaa cacgttgccc ggtgctctgt acaaggctctt 840
 cagcgcctcg cctgatcaag ctaggaacga gatgcgccag gcctgttttg attacttgag 900
 cctcggaggc gtcttctcga atgggcctat tgccttactc tcgggtctta atcctcggcc 960
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 ctgctgcagt gctgctgac ccaccatgat ctgatggcaa ctgatgtgtc atggatggca 1260
 tttttttcct gtgttagtg ttgttaggtg gtttgttggt ctgctgtcat tggaatgagg 1320
 aacctgtata gtgtgccctt ggtactggt caaagttggg aaatatgttg ggtcctaccg 1380
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<210> 10
 <211> 386
 <212> PRT
 <213> Zea mays

<400> 10
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 20 25 30
 Arg Gln Lys Ala Ala Ser Leu Pro Asn Val Gln Leu Glu Gln Gly Thr
 35 40 45
 Val Thr Ser Leu Leu Glu Glu Asn Gly Thr Val Lys Gly Val Gln Tyr
 50 55 60
 Lys Thr Lys Ser Gly Glu Glu Leu Lys Ala Tyr Ala Pro Leu Thr Ile
 65 70 75 80
 Val Cys Asp Gly Cys Phe Ser Asn Leu Arg Arg Ala Leu Cys Ser Pro
 85 90 95

Lys Val Asp Val Pro Ser Cys Phe Val Gly Leu Val Leu Glu Asn Cys
 100 105 110
 Gln Leu Pro His Pro Asn His Gly His Val Ile Leu Ala Asn Pro Ser
 115 120 125
 Pro Ile Leu Phe Tyr Pro Ile Ser Ser Thr Glu Val Arg Cys Leu Val
 130 135 140
 Asp Val Pro Gly Gln Lys Val Pro Ser Ile Ala Ser Gly Glu Met Ala
 145 150 155 160
 Asn Tyr Leu Lys Thr Val Val Ala Pro Gln Ile Pro Pro Glu Ile Tyr
 165 170 175
 Asp Ser Phe Ala Ala Ile Asp Lys Gly Ser Ile Arg Thr Met Pro Asn
 180 185 190
 Arg Ser Met Pro Ala Ala Pro Leu Pro Thr Pro Gly Ala Leu Leu Met
 195 200 205
 Gly Asp Ala Phe Asn Met Arg His Pro Leu Thr Gly Gly Gly Met Thr
 210 215 220
 Val Ala Leu Ser Asp Ile Val Val Leu Arg Asn Leu Leu Lys Pro Leu
 225 230 235 240
 Arg Asn Leu His Asp Ala Ser Ser Leu Cys Lys Tyr Leu Glu Ser Phe
 245 250 255
 Tyr Thr Leu Arg Lys Pro Val Ala Ser Thr Ile Asn Thr Leu Ala Gly
 260 265 270
 Ala Leu Tyr Lys Val Phe Ser Ala Ser Pro Asp Gln Ala Arg Asn Glu
 275 280 285
 Met Arg Gln Ala Cys Phe Asp Tyr Leu Ser Leu Gly Gly Val Phe Ser
 290 295 300
 Asn Gly Pro Ile Ala Leu Leu Ser Gly Leu Asn Pro Arg Pro Leu Ser
 305 310 315 320
 Leu Val Ala His Phe Phe Ala Val Ala Ile Tyr Gly Val Gly Arg Leu
 325 330 335
 Met Leu Pro Leu Pro Ser Pro Lys Arg Met Trp Ile Gly Ala Arg Leu
 340 345 350
 Ile Ser Gly Ala Cys Gly Ile Ile Leu Pro Ile Ile Lys Ala Glu Gly
 355 360 365
 Val Arg Gln Met Phe Phe Pro Ala Thr Val Pro Ala Tyr Tyr Arg Ala
 370 375 380
 Ala Pro
 385
 <210> 11
 <211> 1289

<212> DNA
<213> Oryza sativa

<400> 11
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gctctccaaa ggttgatgta ccatcttggt ttgttgggct ggtcctggag aattgtcaac 180
ttcctcatgc aaaccatggc catgttggtc tggccaatcc ttcacctatc ctatcttacc 240
caataagcag cactgaagtt cgctgtttgg ttgatgtccc tggtcagaag gtgccttcca 300
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aaatctatga ttcattcata gcagccattg ataagggaag cataagaaca atgccaacaa 420
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acatgcggca tcttttgact ggtggcggaa tgactgttgc attatctgac attgttgtgc 540
tacgtaatct tctcaagcct ctccgcaatc tgcattgatgc atctgctctt tgcaaatacc 600
ttgaatcatt ctatacactg cggaagccgg ttgcttctac cataaacaca ttagctgggtg 660
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tttccagtgc atgtggtata attttcccca tcatcaaagc tgaaggtgtg aggcataatgt 960
tcttccccgc cactgtccct gcctattatc gtgctcctcg tccaatggag taagggggga 1020
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tgaattcatc atgattgcgt ctttgcctc 1289

<210> 12
<211> 330
<212> PRT
<213> Oryza sativa

<400> 12
Gly Thr Val Lys Gly Val Lys Tyr Lys Thr Lys Ser Gly Glu Glu Leu
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Lys Ala Tyr Ala Pro Leu Thr Ile Val Cys Asp Gly Cys Phe Ser Asn
20 25 30
Arg Thr Ser Leu His Cys Ser Pro Lys Val Asp Val Pro Ser Cys Phe
35 40 45
Val Gly Leu Val Leu Glu Asn Cys Gln Leu Pro His Ala Asn His Gly
50 55 60
His Val Val Leu Ala Asn Pro Ser Pro Ile Leu Phe Tyr Pro Ile Ser
65 70 75 80
Ser Thr Glu Val Arg Cys Leu Val Asp Val Pro Gly Gln Lys Val Pro
85 90 95
Ser Ile Ala Asn Gly Glu Met Ala Lys Tyr Leu Lys Thr Val Val Ala
100 105 110
Pro Gln Ile Pro Pro Glu Ile Tyr Asp Ser Phe Ile Ala Ala Ile Asp
115 120 125
Lys Gly Ser Ile Arg Thr Met Pro Asn Arg Ser Met Pro Ala Ala Pro
130 135 140

His Pro Thr Pro Gly Ala Leu Leu Met Gly Asp Ala Phe Asn Met Arg
 145 150 155 160
 His Pro Leu Thr Gly Gly Gly Met Thr Val Ala Leu Ser Asp Ile Val
 165 170 175
 Val Leu Arg Asn Leu Leu Lys Pro Leu Arg Asn Leu His Asp Ala Ser
 180 185 190
 Ala Leu Cys Lys Tyr Leu Glu Ser Phe Tyr Thr Leu Arg Lys Pro Val
 195 200 205
 Ala Ser Thr Ile Asn Thr Leu Ala Gly Ala Leu Tyr Lys Val Phe Ser
 210 215 220
 Ala Ser Pro Asp Gln Ala Arg Asn Glu Met Arg Gln Ala Cys Phe Asp
 225 230 235 240
 Tyr Leu Ser Leu Gly Gly Val Phe Ser Asn Gly Pro Thr Ala Leu Leu
 245 250 255
 Ser Gly Leu Asn Pro Arg Pro Leu Ser Leu Val Ala His Phe Phe Ala
 260 265 270
 Val Ala Ile Tyr Gly Val Gly Arg Leu Met Leu Pro Leu Pro Ser Pro
 275 280 285
 Lys Arg Met Trp Ile Gly Val Arg Leu Ile Ser Ser Ala Cys Gly Ile
 290 295 300
 Ile Phe Pro Ile Ile Lys Ala Glu Gly Val Arg His Met Phe Phe Pro
 305 310 315 320
 Ala Thr Val Pro Ala Tyr Tyr Arg Ala Pro
 325 330

<210> 13
 <211> 1883
 <212> DNA
 <213> Glycine max

<400> 13
 gcacgaggaa actagagcca gaaagagaaa caaagagagc gagagcgaga gcgaaaacac 60
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 tggatcatat gcgcgtgct cagcctcgtc gcgcttcgca atttcgcttt cgcgcggaag 180
 aaccgttgcc attcgtctga gaccgatgcc actcgccgcg cggaatatgt caccaccgcc 240
 gccggagaat gcagatcctc gagtcgagac ggcgacgttg acgtcattat tgtcggagct 300
 ggtgtcgccg gctccgctct cgctcacact ctgcgcaagg atgggcgtcg ggtacttgctc 360
 attgaaagag atttgagtga acaagaccga attgttgagg agttgctaca acctggaggc 420
 tatctcaaat taattgagct gggacttgaa gattgtgtgg agaaaattga tgctcaacta 480
 gtgtttggtt atgctctttt caaggatggg aagcacacaa gactctctta tcccttgga 540
 aagtttcact cagatgttgc tggcagaagc ttccacaatg ggcgttttat tcagaggatg 600
 agagagaagg ctgcctccct ttccaatgta cgactggagc aaggaacagt cacttcctta 660
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 tctatttcga atggtgaaat gacaaattat ttgaagacag tggtagctcc acagattcca 1020
 cctgagcttc atgactcatt cgtagctgca gtggacaaag gcaacatcag gacaatgcc 1080

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aacagaagca tgccagcagc tccttatcct acgcccggag ccctgttgat gggagatgca 1140
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gttccgtgaa cccatcatga gtcattcaag atgagccacc agtgttttcc attcagaaaa 1740
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tttaaatgaa atgtttgatt tgtaaatctt cttaaaaaaa aaaaaaaaaa aaaaaaaaaa 1860
aaaaaaaaaa aaaaaaaaaa aaa 1883

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<210> 14
<211> 523
<212> PRT
<213> Glycine max

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<400> 14
Met Val Asp Pro Tyr Val Leu Gly Trp Ile Ile Cys Ala Val Leu Ser
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Leu Val Ala Leu Arg Asn Phe Ala Phe Ala Arg Lys Asn Arg Cys His
          20                      25                      30

Ser Ser Glu Thr Asp Ala Thr Arg Arg Ala Glu Asn Val Thr Thr Ala
          35                      40                      45

Ala Gly Glu Cys Arg Ser Ser Ser Arg Asp Gly Asp Val Asp Val Ile
  50                      55                      60

Ile Val Gly Ala Gly Val Ala Gly Ser Ala Leu Ala His Thr Leu Gly
  65                      70                      75                      80

Lys Asp Gly Arg Arg Val Leu Val Ile Glu Arg Asp Leu Ser Glu Gln
          85                      90                      95

Asp Arg Ile Val Gly Glu Leu Leu Gln Pro Gly Gly Tyr Leu Lys Leu
          100                      105                      110

Ile Glu Leu Gly Leu Glu Asp Cys Val Glu Lys Ile Asp Ala Gln Leu
          115                      120                      125

Val Phe Gly Tyr Ala Leu Phe Lys Asp Gly Lys His Thr Arg Leu Ser
          130                      135                      140

Tyr Pro Leu Glu Lys Phe His Ser Asp Val Ala Gly Arg Ser Phe His
          145                      150                      155                      160

Asn Gly Arg Phe Ile Gln Arg Met Arg Glu Lys Ala Ala Ser Leu Ser
          165                      170                      175

Asn Val Arg Leu Glu Gln Gly Thr Val Thr Ser Leu Leu Glu Glu Lys
          180                      185                      190

Gly Val Ile Lys Gly Val His Tyr Lys Thr Lys Asp Ser Gln Glu Leu
          195                      200                      205

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Ser	Ala	Cys	Ala	Pro	Leu	Thr	Val	Val	Cys	Asp	Gly	Cys	Phe	Ser	Asn	210	215	220
Leu	Arg	Arg	Ser	Leu	Cys	Asn	Pro	Lys	Val	Asp	Val	Pro	Ser	His	Phe	225	230	235
Val	Gly	Leu	Ile	Leu	Glu	Ser	Cys	Glu	Leu	Pro	Tyr	Ala	Asn	His	Gly	245	250	255
His	Val	Ile	Leu	Gly	Asp	Pro	Ser	Pro	Val	Leu	Phe	Tyr	Arg	Ile	Ser	260	265	270
Ser	Ser	Glu	Ile	Arg	Cys	Leu	Val	Asp	Val	Pro	Gly	Gln	Lys	Val	Pro	275	280	285
Ser	Ile	Ser	Asn	Gly	Glu	Met	Thr	Asn	Tyr	Leu	Lys	Thr	Val	Val	Ala	290	295	300
Pro	Gln	Ile	Pro	Pro	Glu	Leu	His	Asp	Ser	Phe	Val	Ala	Ala	Val	Asp	305	310	315
Lys	Gly	Asn	Ile	Arg	Thr	Met	Pro	Asn	Arg	Ser	Met	Pro	Ala	Ala	Pro	325	330	335
Tyr	Pro	Thr	Pro	Gly	Ala	Leu	Leu	Met	Gly	Asp	Ala	Phe	Asn	Met	Arg	340	345	350
His	Pro	Leu	Thr	Gly	Gly	Gly	Met	Thr	Val	Ala	Leu	Ser	Asp	Ile	Val	355	360	365
Val	Leu	Arg	Asn	Leu	Leu	Arg	Pro	Leu	Arg	Asp	Leu	Asn	Asp	Ala	Pro	370	375	380
Gly	Leu	Cys	Lys	Tyr	Leu	Glu	Ser	Phe	Tyr	Thr	Leu	Arg	Lys	Pro	Val	385	390	395
Ala	Ser	Thr	Ile	Asn	Thr	Leu	Ala	Gly	Ala	Leu	Tyr	Lys	Val	Phe	Cys	405	410	415
Ala	Ser	Pro	Asp	Pro	Ala	Arg	Lys	Glu	Met	Arg	Gln	Ala	Cys	Phe	Asp	420	425	430
Tyr	Leu	Ser	Leu	Gly	Gly	Leu	Phe	Ser	Glu	Gly	Pro	Val	Ser	Leu	Leu	435	440	445
Ser	Gly	Leu	Asn	Pro	Arg	Pro	Leu	Ser	Leu	Val	Leu	His	Phe	Phe	Ala	450	455	460
Val	Ala	Ile	Tyr	Gly	Val	Gly	Arg	Leu	Leu	Leu	Pro	Phe	Pro	Ser	Pro	465	470	475
Lys	Arg	Met	Trp	Ile	Gly	Val	Arg	Leu	Ile	Ser	Ser	Ala	Ser	Gly	Ile	485	490	495
Ile	Leu	Pro	Ile	Ile	Lys	Ala	Glu	Gly	Val	Arg	Gln	Met	Phe	Phe	Pro	500	505	510
Ala	Thr	Val	Pro	Ala	Tyr	Tyr	Arg	Asn	Pro	Pro						515	520	

<210> 15
 <211> 1948
 <212> DNA
 <213> Triticum aestivum

<400> 15
 gcacgagctc tcgtctcgtc tcgtctcgtc tcccaatccc atcgcccggc actctccccc 60
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 cgccggagga cggctgcgcg gtcgctgacg gcgcagggag cgcggccgtg gacggcccgga 180
 cggacgtcat catcgtcggg gccgggggtcg ccggatctgc cctcgcctac acgctcggaa 240
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 caaaactttc ttacccttg gagaagttcc attcagatgt ggctggcagg agctttcaca 480
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 agggaagcat aagaacaatg ccaaataagg gcatgccagc tgcaccacat ccaacacctg 1020
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 35 40 45
 Gln Pro Gly Gly Tyr Leu Lys Leu Met Glu Leu Gly Leu Gln Asp Cys
 50 55 60
 Val Asp Glu Ile Asp Ala Gln Arg Val Leu Gly Tyr Ala Leu Phe Lys
 65 70 75 80

Asp Gly Lys Asn Thr Lys Leu Ser Tyr Pro Leu Glu Lys Phe His Ser
 85 90 95
 Asp Val Ala Gly Arg Ser Phe His Asn Gly Arg Phe Ile Gln Arg Met
 100 105 110
 Arg Glu Lys Ala Ala Ser Leu Pro Asn Val Gln Leu Glu Gln Gly Thr
 115 120 125
 Val Thr Ser Leu Leu Glu Glu Asn Gly Thr Val Lys Gly Val Gln Tyr
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 Lys Ile Lys Ser Gly Glu Glu Leu Lys Ala Tyr Ala Pro Leu Thr Ile
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 Val Cys Asp Gly Cys Phe Ser Asn Leu Arg Arg Ala Leu Cys Ser Pro
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 Lys Val Glu Val Pro Ser Cys Phe Val Gly Leu Val Leu Glu Asn Cys
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 Glu Leu Pro His Ala Asn His Gly His Val Ile Leu Ala Asn Pro Ser
 195 200 205
 Pro Ile Leu Phe Tyr Pro Ile Ser Ser Thr Glu Val Arg Cys Leu Val
 210 215 220
 Asp Val Pro Gly Gln Lys Val Pro Ser Ile Ala Ser Gly Glu Met Thr
 225 230 235 240
 Asn Tyr Leu Lys Thr Val Val Ala Pro Gln Ile Pro Pro Gln Ile Cys
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 Asp Ser Phe Ile Ala Ala Ile Asp Lys Gly Ser Ile Arg Thr Met Pro
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 Asn Arg Ser Met Pro Ala Ala Pro His Pro Thr Pro Gly Ala Leu Leu
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 Met Gly Asp Ala Phe Asn Met Arg His Pro Leu Thr Gly Gly Gly Met
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 Phe Tyr Thr Leu Arg Lys Pro Val Ala Ser Thr Ile Asn Thr Leu Ala
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 Gly Ala Leu Tyr Lys Val Phe Ser Ser Ser Pro Asp Lys Ala Arg Asp
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 Glu Met Arg Gln Ala Cys Phe Asp Tyr Leu Ser Leu Gly Gly Val Cys
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 Ser Asn Gly Pro Ile Ala Leu Leu Ser Gly Leu Asn Pro Arg Pro Leu
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Ser	Leu	Val	Ala	His	Phe	Phe	Ala	Val	Ala	Ile	Phe	Gly	Val	Gly	Arg
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Leu	Met	Leu	Pro	Leu	Pro	Ser	Pro	Lys	Arg	Met	Trp	Thr	Gly	Ala	Arg
			420					425					430		
Leu	Ile	Ser	Gly	Ala	Cys	Gly	Ile	Ile	Phe	Pro	Ile	Ile	Lys	Ala	Glu
		435					440					445			
Gly	Val	Arg	Gln	Met	Phe	Phe	Pro	Ala	Thr	Val	Pro	Ala	Tyr	Tyr	Arg
	450					455					460				
Ala	Pro	Pro													
465															